

REMARKS

Status

Claims 1-9, 11-24, 26 and 31 were pending in this Office Action. By the present amendment, claims 1, 3-5, 7-9 and 13-16 have been canceled. New claims 32 and 33 have been added. Accordingly, it is now claims 2, 6, 11, 12, 17-24, 26 and 31-33 which are at issue.

The Office Action

In the Office Action mailed March 7, 2006, claims 1-9 and 11-24, as then pending, were rejected and claims 26 and 31 were allowed.

Specifically, claims 1, 3-4, 8, 11, 13-14 and 17-23 were rejected under 35 U.S.C. §102 as being anticipated by U.S. Patent 6,593,030 of Bito. Claims 1-8 and 11-23 were rejected under 35 U.S.C. §102 as being anticipated by U.S. Patent 6,544,687 or corresponding PCT Application WO 01/03210 of Sato. Claims 1, 3-5, 7-9, 11, 13 and 17-24 were rejected under 35 U.S.C. §102 as being anticipated by U.S. Patent 6,824,921 of Sato.

Claim 2 was rejected under 35 U.S.C. §103 as being unpatentable over Sato '921. Claims 5-7 were rejected under 35 U.S.C. §103 as being unpatentable over Bito '030. Claims 2, 12 and 15-16 were rejected under 35 U.S.C. §103 as being unpatentable over Bito '030 in view of Sato '687.

In the Office Action, the Examiner allowed claims 26 and 31.

Applicant thanks the Examiner for the search, for the Office Action, for the very thorough explanation of the rejections, and for the indication of allowable subject matter.

The Amended Claims

In the interest of expediting prosecution of this application, Applicant has restricted the subject matter of the pending claims to that which is clearly allowable in view of the prior art.

Applicant reserves the right to file one or more continuation applications directed to the remaining patentable subject matter disclosed in this specification.

I. New Claim 33

Claim 1 has been canceled and has been replaced by new claim 33, which claim is allowable in view of the prior art.

New claim 33 is directed to a multiphase composite material having a first, electrochemically active phase which includes amorphous, nanophase domains of tin or silicon therein. This first phase is interspersed in a matrix which matrix is a second stabilizer phase. As specifically delineated in the claim, this stabilizer phase is comprised of an electrochemically active material which is one or more of a metal nitride, metal carbide, metal oxynitride or metal oxycarbide. Materials meeting the limitation of this claim are not shown or suggested in any of the prior art of record. The Bito '030 patent was cited for its teaching of a two phase electrode material having a first phase which is an intermetallic material having a hexagonal close packed (Ni_2In type) structure further including carbon as a second phase. As such, the Bito patent does not show a material having a second stabilizer phase comprising the recited group of metal nitrides, carbides, oxycarbides and oxynitrides. Furthermore, there is no teaching in Bito of a material configured such that the second phase forms a matrix configured as a plurality of spaced apart regions having the first phase interspersed therebetween. Applicant notes for the record that claim 33 incorporates, among other things, the subject matter of originally pending claim 9 which was free of both novelty and obviousness rejections based upon Bito.

The subject matter of new claim 33 is likewise patentable in view of the Sato '687 patent and corresponding PCT application. The Sato '687 patent shows an electrode material having a first phase which is comprised of lithium and two metallic elements, and a second phase which is

comprised of carbon, and in that regard is similar to Bito, and in that regard likewise does not show a material having a phase comprised of a carbide, nitride, oxycarbide or oxynitride of a metal. As noted above, new claim 33 includes the limitation of original claim 9 regarding the composition of the second phase, and this claim was free of any rejection on grounds of novelty or obviousness based upon Sato '687.

The third reference cited against the originally pending claims was the Sato '921 patent, and new claim 33 is likewise patentable thereover. The Sato '921 patent shows an electrode material having one component which is a nitride of a particular listed group of metals, and a second component which is GeSnPb or Bi. Sato '921 does not show a composite material having electrochemically active materials in the first and the second phases as is specifically required in claim 33. In that regard, new claim 33 includes the limitation of original claim 14 regarding the electrochemically active nature of the second phase, and this claim was not subject to any rejection on the grounds of novelty or obviousness in view of Sato '921. Therefore, claim 33 is novel and obvious thereover.

New claim 33 includes limitations which make the subject matter thereof both novel and nonobvious in view of all of the prior art references. Therefore, this claim is patentable over these references taken either singly or in combination. Accordingly, claim 33 and all claims dependent thereupon are allowable.

II. Amended Claim 21

Claim 21 has been amended to specifically recite a material having a first active phase comprised of an electrochemically active material having nanophase domains of Sn, Sb, Bi, Pb, Ag, In, Si, Ge and Al. The material further includes a stabilizer phase which is electrochemically

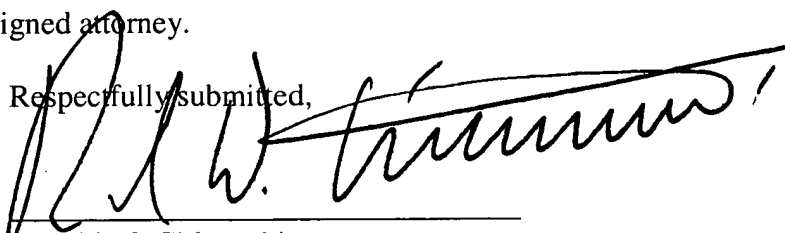
active and which comprises a ceramic material. The active phase is interspersed between regions of the stabilizer phase. This claim is patentable over all of the prior art.

The Bito reference and the Sato '687 reference as noted above are all directed to materials having a carbon-based phase. As such, they do not show or suggest a material having a ceramic-based, electrochemically active phase forming a matrix as recited in claim 21. Furthermore, the Sato '921 patent does not show or suggest a material having an electrochemically active matrix. Therefore, it does not show or suggest the subject matter of claim 21. Therefore, there is no teaching in the art which shows or suggests the presently claimed subject matter, and claim 21, as well as those claims dependent thereupon, are allowable.

Conclusion

By the present amendment, Applicant has presented claims which are allowable over the prior art, and has placed the application in condition for allowance. Any questions, comments or suggestions the Examiner may have with regard to placing the application in still better condition for allowance should be directed to the undersigned attorney.

Respectfully submitted,

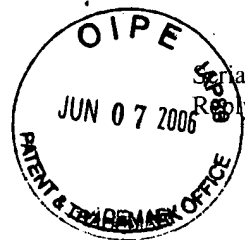


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